

### REMARKS

In view of the above amendments and the following remarks, reconsideration and further examination are requested.

By this amendment, claims 22-29 have been canceled in favor of new claims 30-37. Support for the new claims 30-37 can be found at least at: Fig. 4; Fig. 22; column 14, lines 32-63; Fig. 6; column 18, lines 40-42; column 21, lines 6-26; and Fig. 21.

The previous independent claims 22, 24, 26, and 28 have been replaced by new independent claims 30, 32, 34, and 36. These new independent claims differ from the canceled independent claims in that the recitation that "a distance in the vector space diagram between any closest two signal points in each signal point group is less than  $2\sigma$ " has been removed. However, retained in the new independent claims 30, 32, 34, and 36 is the recitation that "a distance in the vector space diagram between any closest two signal points of any adjacent point groups is  $2\sigma \times n$ ."

The Examiner provisionally rejected claims 22-29 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over the claims of co-pending applications 09/686,463 and 09/686,466. At the time of the Examiner's rejection, the claims in these two co-pending applications included the second limitation discussed in the preceding paragraph, but not the first limitation. The Examiner's position was that the difference between claims 22-29 and the claims of the two co-pending applications was within the level of ordinary skill in the art. Accordingly, Applicant's intend to retain the limitation of "a distance in the vector space diagram between any closest two signal points of any adjacent point groups is  $2\sigma \times n$ " in the present application and to remove such recitation in the co-pending applications 09/686,463 (which has been abandoned in favor of continuation 10/635,468) and 09/686,466.

Thus, it is requested that the Examiner reconsider the provisional obviousness-type double patenting rejections in view of the claim amendments in applications 10/635,468 (the continuation of 09/686,463) and 09/686,466. Moreover, it is noted that the claims in 09/686,466 were indicated as allowable (except for the requirement of a Supplemental Reissue Declaration) and included the limitation of "a distance in the vector space diagram between any closest two signal points of any adjacent point groups is  $2\sigma \times n$ " which is now recited in claims 30, 32, 34, and 36 of the present

application. Thus, it is also requested that the Examiner consider whether the present claims 30-37 should be allowed for the same reasons for allowing the claims in 09/686,466.

In view of the above amendments and remarks, it is submitted that claims 30-37 are allowable over the prior art of record and the related co-pending applications, and that the present application is accordingly in condition for allowance. The Examiner is invited to contact the undersigned attorney by telephone to resolve any remaining issues.

Respectfully submitted,

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January 14, 2004